

## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

#### **14 CFR Part 39**

**[Docket No. FAA-2005-19559; Directorate Identifier 2004-NE-03-AD; Amendment 39-14892; AD 2007-02-05]**

**RIN 2120-AA64**

#### **Airworthiness Directives; Rolls-Royce plc RB211 Trent 700 Series Turbofan Engines**

**AGENCY:** Federal Aviation Administration (FAA), Department of Transportation (DOT).

**ACTION:** Final rule; request for comments.

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**SUMMARY:** The FAA is superseding an existing airworthiness directive (AD) for Rolls-Royce plc (RR) RB211 Trent 700 series turbofan engines. That AD currently requires initial and repetitive borescope inspections of the high pressure-and-intermediate pressure (HP-IP) turbine internal and external oil vent tubes for coking and carbon buildup, and cleaning or replacing the vent tubes if necessary. This AD requires the same actions but uses more stringent tube replacement criteria than the previous AD. This AD results from a recent incident where an RB211 Trent 700 series turbofan engine had an oil vent tube rupture as a result of blockage, leading to significant loss of engine oil. The incident indicates that further measures are necessary to control carbon buildup in the oil vent tubes. We are issuing this AD to prevent internal oil fires due to coking and carbon buildup, that could cause uncontained engine failure and damage to the airplane.

**DATES:** Effective February 6, 2007. The Director of the Federal Register approved the incorporation by reference of certain publications listed in the regulations as of February 6, 2007.

We must receive any comments on this AD by March 23, 2007.

**ADDRESSES:** Use one of the following addresses to comment on this proposed AD.

- DOT Docket Web site: Go to <http://dms.dot.gov> and follow the instructions for sending your comments electronically.
- Government-wide rulemaking Web site: Go to <http://www.regulations.gov> and follow the instructions for sending your comments electronically.
- Mail: Docket Management Facility; U.S. Department of Transportation, 400 Seventh Street, SW., Nassif Building, Room PL-401, Washington, DC 20590-0001.
- Fax: (202) 493-2251.

- Hand Delivery: Room PL-401 on the plaza level of the Nassif Building, 400 Seventh Street, SW., Washington, DC, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

Contact Rolls-Royce plc, PO Box 31, Derby, England; telephone: 011-44-1332-249428; fax: 011-44-1332-249223, for the service information identified in this AD.

**FOR FURTHER INFORMATION CONTACT:** Christopher Spinney, Aerospace Engineer, Engine Certification Office, FAA, Engine and Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803-5299; telephone (781) 238-7175; fax (781) 238-7199.

**SUPPLEMENTARY INFORMATION:** On November 1, 2004, we issued AD 2004-23-03, Amendment 39-13858 (69 FR 64653, November 8, 2004). That AD requires initial and repetitive borescope inspections of the HP-IP turbine internal and external oil vent tubes for coking and carbon buildup, and cleaning or replacing the vent tubes if necessary. That AD was the result of a report of an RB211 Trent 700 series engine experiencing a disk shaft separation, overspeed of the IP turbine rotor, and multiple blade release of IP turbine blades. The findings suggested these events resulted from an internal oil fire in the HP-IP turbine oil vent tubes due to coking and carbon buildup. This fire led to a second fire in the internal air cavity below the IP turbine disk drive shaft. That condition, if not corrected, could result in uncontained engine failure and damage to the airplane.

#### **Actions Since AD 2004-23-03 Was Issued**

Since AD 2004-23-03 was issued, the European Aviation Safety Agency (EASA), which is the airworthiness authority for the European Union, notified us that an unsafe condition may exist on RB211 Trent 700 series turbofan engines. EASA advises that recently an oil vent tube ruptured as a result of blockage, leading to significant loss of engine oil, on an RB211 Trent 700 series turbofan engine. This incident indicates that further measures are necessary to control carbon buildup in the oil vent tubes.

#### **Relevant Service Information**

We have reviewed and approved the technical contents of RR Alert Service Bulletin (ASB) No. RB.211-72-AE302, Revision 3, dated September 20, 2006. That ASB describes procedures for borescope inspections, cleaning, and replacement if necessary of the internal and external oil vent tubes. For internal oil vent tubes to pass inspection, they must allow cleaning tool, number HU80298 to pass through them. AD 2004-23-03 was less stringent in that it allowed tubes that an 8 mm or 6 mm diameter borescope could pass through, back into service. EASA classified this ASB as mandatory and issued AD 2006-0355, dated December 4, 2006, in order to ensure the airworthiness of these RB211 Trent 700 series turbofan engines in Europe.

#### **Bilateral Airworthiness Agreement**

These engine models are manufactured in the United Kingdom and are type certificated for operation in the United States under the provisions of section 21.29 of the Federal Aviation Regulations (14 CFR 21.29) and the applicable bilateral airworthiness agreement. Under this bilateral airworthiness agreement, EASA kept the FAA informed of the situation described above. We have examined the findings of EASA, reviewed all available information, and determined that AD action is necessary for products of this type design that are certificated for operation in the United States.

## **FAA's Determination and Requirements of This AD**

Although no airplanes that are registered in the United States use these RB211 Trent 700 series turbofan engines, the possibility exists that the engines could be used on airplanes that are registered in the United States in the future. The unsafe condition described previously is likely to exist or develop on other RB211 Trent 700 series turbofan engines of the same type design. This AD requires initial and repetitive borescope inspections of the HP-IP turbine internal and external oil vent tubes for coking and carbon buildup, and cleaning or replacing the vent tubes if necessary. We are issuing this AD to prevent internal oil fires due to coking and carbon buildup, that could cause uncontained engine failure and damage to the airplane. You must use the service information described previously to perform the actions required by this AD.

## **FAA's Determination of the Effective Date**

Since there are currently no domestic operators of this engine model, notice and opportunity for public comment before issuing this AD are unnecessary. Therefore, a situation exists that allows the immediate adoption of this regulation.

## **Comments Invited**

This AD is a final rule that involves requirements affecting flight safety and was not preceded by notice and an opportunity for public comment; however, we invite you to send us any written relevant data, views, or arguments regarding this AD. Send your comments to an address listed under ADDRESSES. Include "AD Docket No. FAA-2005-19559; Directorate Identifier 2004-NE-03-AD" in the subject line of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of the rule that might suggest a need to modify it.

We will post all comments we receive, without change, to <http://dms.dot.gov>, including any personal information you provide. We will also post a report summarizing each substantive verbal contact with FAA personnel concerning this AD. Using the search function of the DMS Web site, anyone can find and read the comments in any of our dockets, including the name of the individual who sent the comment (or signed the comment on behalf of an association, business, labor union, etc.). You may review the DOT's complete Privacy Act Statement in the Federal Register published on April 11, 2000 (65 FR 19477-78) or you may visit <http://dms.dot.gov>.

## **Examining the AD Docket**

You may examine the docket that contains the AD, any comments received, and any final disposition in person at the Docket Management Facility Docket Office between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The Docket Office (telephone (800) 647-5227) is located on the plaza level of the Department of Transportation Nassif Building at the street address stated in ADDRESSES. Comments will be available in the AD docket shortly after the DMS receives them.

## **Authority for This Rulemaking**

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, Section 106, describes the authority of the FAA Administrator. Subtitle VII, Aviation Programs, describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701, “General requirements.” Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

## **Regulatory Findings**

We have determined that this AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that the regulation:

1. Is not a “significant regulatory action” under Executive Order 12866;
2. Is not a “significant rule” under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979); and
3. Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

We prepared a summary of the costs to comply with this AD and placed it in the AD Docket. You may get a copy of this summary by sending a request to us at the address listed under ADDRESSES.

## **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

## **Adoption of the Amendment**

Under the authority delegated to me by the Administrator, the Federal Aviation Administration amends part 39 of the Federal Aviation Regulations (14 CFR part 39) as follows:

### **PART 39—AIRWORTHINESS DIRECTIVES**

1. The authority citation for part 39 continues to read as follows:

**Authority:** 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. The FAA amends § 39.13 by removing Amendment 39-13858 (69 FR 64653, November 8, 2004), and by adding a new airworthiness directive, Amendment 39-14892, to read as follows:



**2007-02-05 Rolls-Royce plc:** Amendment 39-14892. Docket No. FAA-2005-19559; Directorate Identifier 2004-NE-03-AD.

#### **Effective Date**

- (a) This airworthiness directive (AD) becomes effective February 6, 2007.

#### **Affected ADs**

- (b) This AD supersedes AD 2004-23-03.

#### **Applicability**

(c) This AD applies to Rolls-Royce plc (RR) RB211 Trent 768-60, RB211 Trent 772-60, and RB211 Trent 772B-60 series turbofan engines. These engines are installed on, but not limited to, Airbus A330-243, -341, -342 and -343 series airplanes.

#### **Unsafe Condition**

(d) This AD results from a recent incident where an RB211 Trent 700 series turbofan engine had an oil vent tube rupture as a result of blockage, leading to significant loss of engine oil. The incident indicates that further measures are necessary to control carbon buildup in the oil vent tubes. We are issuing this AD to prevent internal oil fires due to coking and carbon buildup, that could cause uncontained engine failure and damage to the airplane.

#### **Compliance**

(e) You are responsible for having the actions required by this AD performed within the compliance times specified unless the actions have already been done.

#### **Initial Inspections, Cleaning, and Replacements**

(f) Using the schedule in Table 1 of this AD, borescope-inspect and clean as necessary, the high pressure-and-intermediate pressure (HP-IP) turbine internal oil vent tubes, external oil vent tubes, and bearing chamber.

**Table 1 - Initial Inspection Schedule**

<b>If the Engine or the 05 Module:</b>	<b>Then Initially Inspect:</b>
Has reached 10,000 hours time-since-new (TSN) or reached 2,500 cycles-since-new (CSN) on the effective date of this AD.	Within 3 months after the effective date of this AD.
Has fewer than 10,000 hours TSN or fewer than 2,500 CSN on the effective date of this AD.	Within 3 months after reaching 10,000 hours TSN or 2,500 CSN, whichever occurs first.
Is returned for a shop visit.	Before returning to service.

(g) If after cleaning, there is still carbon in the vent tube that prevents cleaning tool, number HU80298, from passing through the tube, then replace the internal oil vent tube within 10 cycles-in-service (CIS).

(h) If after cleaning, there is still carbon of visible thickness in either of the two external oil vent tubes, then replace the external oil vent tube before further flight.

### **Repetitive Inspections, Cleaning, and Replacements**

(i) Within 6,400 hours time-in-service since last inspection and cleaning, or within 1,600 cycles-since-last inspection and cleaning, or at the next engine shop visit, whichever occurs first, borescope-inspect the HP-IP turbine internal and external oil vent tubes and bearing chamber, and clean the oil vent tubes as necessary.

(j) If after cleaning there is still carbon in the internal oil vent tube that prevents cleaning tool, number HU80298, from passing through the tube, then replace the internal oil vent tube within 10 CIS.

(k) If after cleaning there is still carbon of visible thickness, in either of the two external oil vent tubes, then replace the external oil vent tube before further flight.

### **Inspection and Cleaning Procedures**

(l) Use paragraphs 3.A. through 3.A.(4)(b) of the Accomplishment Instructions of Rolls-Royce plc Alert Service Bulletin No. RB.211-72-AE302, Revision 3, dated September 20, 2006, to do borescope inspections, and cleaning of the oil vent tubes and bearing chamber.

### **Alternative Methods of Compliance**

(m) The Manager, Engine Certification Office, has the authority to approve alternative methods of compliance for this AD if requested using the procedures found in 14 CFR 39.19.

### **Material Incorporated by Reference**

(n) You must use Rolls-Royce plc Alert Service Bulletin No. RB.211-72-AE302, Revision 3, dated September 20, 2006, to perform the inspections and cleaning required by this AD. The Director of the Federal Register approved the incorporation by reference of this service bulletin in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Contact Rolls-Royce plc, PO Box 31, Derby, England; telephone: 011-44-1332-249428; fax: 011-44-1332-249223, for a copy of this service information. You may review copies at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to: <http://www.archives.gov/federal-register/cfr/ibr-locations.html>.

## **Related Information**

(o) European Aviation Safety Agency airworthiness directive No. 2006-0355, dated December 4, 2006, also addresses the subject of this AD.

(p) Contact Christopher Spinney, Aerospace Engineer, Engine Certification Office, FAA, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803; telephone (781) 238-7175; fax (781) 238-7199, for more information about this AD.

Issued in Burlington, Massachusetts, on January 12, 2007.

Francis A. Favara,

Manager, Engine and Propeller Directorate, Aircraft Certification Service.

[FR Doc. E7-684 Filed 1-19-07; 8:45 am]